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ABSTRACT

Following an orientation session in which test-anxious students were instructed in the theory and methods of desensitization, eighteen ISU undergraduates applied for a desensitization and counseling program for test-taking anxiety. All students committed themselves to attend seven weekly meetings and to practice daily the relaxation exercises at home. Nine of these eighteen subjects were assigned to the treatment group and nine to the wait-list control group on the basis of a free class hour at program time. Treatment consisted of seven desensitization and counseling sessions. The treatment and control groups did not differ significantly in initial Grade Point Average or scores on the A.C.T. Test. Both groups improved G.P.A. the program quarter. But only the treatment group demonstrated a statistically higher improvement. It is concluded that group desensitization in this seven session model is an effective and efficient technique to modify anxiety responses to test taking situations. (Author)

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GROUP DESENSITIZATION OF TEST ANXIETY

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There has been a growing interest in college counseling centers in the development of techniques to assist students who are prevented from performing up to capacity by test-taking anxiety. Desensitization is one therapeutic technique that has been explored for treating test-anxiety. Most behavior therapists have relied on self-ratings of experienced anxiety as the indicator of therapeutic success. In the studies which use more objective and reliable indices such as change in Grade Point Average (GPA) to evaluate success, the results are not consistent. Katahn et al, (1966) and Cohen (1968) obtained positive GPA changes. Emery and Krumboltz (1967) and Garlington and Cottler (1968) did not. The former studies combined counseling and group interaction with the desensitization procedures whereas the latter studies did not. The present study was designed to assess changes in pre and post program GPA for an experimental group who participated in a desensitization and counseling program and for a wait-list control group who received no treatment. The control group in this study provided a base-rate of GPA change for college students at the same level in school, distressed by the same problem, and motivated to participate in the program. The motivation of the experimental and control subjects was indicated by their commitment to attend all seven weekly sessions after being instructed in the rationale and procedures of desensitization.

Klein (1968) observed "Therapy as Wolpe and Lazarus practice it includes indoctrination, teaching and exhortation, apparently evidenced to provide a rationale for the treatment and to enhance motivation". The effects of this

conceptual formulation of anxiety as a learned response that can consequently be unlearned and the delineation of the history and rationale of desensitization procedures have not been separated from other steps in the treatment program in most studies (Suinn, 1968; Paul and Shannon, 1966; Garlington and Cottler, 1968; Katahn, Strenger and Cherry, 1966). The benefits that might have come through the information giving about the nature of anxiety and the importance of muscle systems in maintaining a state of anxiety were not separate from the effects of the desensitization or desensitization and counseling. In this study the information giving preceded the treatment program. Instructions in the rationale and procedures of desensitization were given to all students, ie, a group that included both the experimental and the control subjects previous to the treatment condition. All students had access to library facilities where the work of Wolpe (1958) and Jacobsen (1938) were available. This study investigated the effectiveness of a desensitization and counseling program over and above the benefits achieved from a rational explanation about the nature of anxiety and an effective way to inhibit the response.

Unique to this study was a final condition of an actual graduated exposure to the exam condition in the life situation of the participants. The program was timed to begin after mid-term exams and to coincide with the final six weeks and exam week in an academic quarter.

The hypothesis of this study was: A significant improvement in GPA would be obtained by students in a desensitization group counseling program that included the following steps:

Orientation Session -- Instruction to all students including the experimental and control subjects in desensitization rationale and procedures.

Commitment to the full seven weeks as a prerequisite to class enrollment for the experimental and control subjects.

Seven Treatment Sessions -- Hierarchy Construction.

Relaxation Training.

Desensitization Proper.

Discussion of both the use and success with the technique by group members, and the learning skills and attitudes with which to replace ineffective approaches.

Graduated opportunities to practice on lesser quarterly exams with termination of the program during final exam week.

METHOD

Subjects: A single notice was placed in the DAILY student newspaper about a counseling program for anxiety management in testing situations.

"A group behavior therapy program for students experiencing marked test taking anxiety will be initiated this quarter at the Student Counseling Service. There will be weekly meetings to begin immediately after vacation that will continue through final exam week (7 sessions). Students who are interested in anxiety management in testing situations may contact Dr. Marianne McManus at 4-5056 before December 16 for an appointment to discuss the program."

In the individual orientation interviews a maximum of 10 minutes was spent exploring the current status of a student's problem. Then the learning theory rationale and the group methodology of systematic desensitization was explained (after Paul, 1966). Anxiety was explained as a learned physiological reaction, an inappropriate reaction, to the stimulus cues of the testing situation. Students were made aware anxiety reactions were maintained by sustaining muscular tension. They were informed that the anxiety state could be unlearned by learning an incompatible response, and that this incompatible response would inhibit the anxious response. The functions of the relaxation training and steps in desensitization were explained. The student was informed that an application for the

program signified a commitment to attend all sessions, only excusing himself for the most serious reasons. Also, that all program participants would be expected to practice the relaxation exercises at home for two fifteen minute periods a day.

Eighteen students applied for the program following the orientation session. All were enrolled as full time students at the University. Nine students were selected for the experimental group on the basis of having a common hour available from 2-3 p.m. on Tuesday afternoons. The control group of wait-list subjects were students who applied but were not free at that time. Each was informed that he would be contacted with the program was again conducted. The experimental group consisted of 6 males and 3 females; the control group of 4 males and 5 females. The typical student in both groups was a college sophomore. The mean ACT score for the experimental treatment group was 29.2, and for the control group 30.

PROCEDURE

The experiment consisted of seven sessions of one hour each. Students in the experimental group attended all sessions unless unavoidable circumstances (such as illness or a family death) prevented attendance. A total of three student-session hours were missed for these reasons. The sessions were held in a college seminar room with straight back chairs that lacked arm rests. The treatment session progression was as follows:

Treatment Session One. Following introductions the therapist reflected some of the common concerns and goals of the members of the group. Ten minutes were spent reviewing the explanation of anxiety from the orientation session. They were again informed that Relaxation was the anxiety-incompatible-response that they would learn to substitute for anxiety through this program. The first step in this relearning involved determining the situations in which they became

anxious. The next fifteen minutes of the hour were spent in the construction of an individual ten step spatial-temporal hierarchy. The hierarchy was made up of test associated experiences graded in order of increasing anxiety from least anxiety for number one to most anxiety for number ten. Students were given examples of the kinds of situations in which students in general might experience anxiety to aid them in identifying these situations. They were encouraged to make their own hierarchies as specific as possible to aid them in the visualization that would take place in future sessions. During the last thirty minutes of the first session the student received training in progressive relaxation (Jacobsen, 1938). The student was instructed to practice these procedures twice a day for fifteen minutes each at home and was given a ditto list of muscle groups to aid them.

Treatment Session Two. The first twenty minutes were spent reviewing progress. They discussed the success with relaxation practice they had achieved. They also exchanged ideas on the study habits and attitudes and self-talk that they associated with impending exams. Alternatives with which to replace ineffective approaches were suggested. Ten minutes were spent practicing visualization preparatory for desensitization. The final thirty minutes were devoted to completing the relaxation training.

Treatment Session Three through Seven. Students shared their reactions to the method and their progress in applying it. Ideas were exchanged on effective and ineffective attitudes. Following the twenty minutes of general counseling discussion, systematic desensitization was carried out. Working up the hierarchy from the least anxiety provoking item, two items per session were chosen to be visualized. The format was five minutes of relaxation and a twenty-second visualization of the hierarchy item. This unit was repeated

three times for each of the two hierarchy items per session. The session ended with five minutes of relaxation. Clients were encouraged to apply the relaxation in stressful circumstances.

The outcome index of success for this experiment was Grade Point Average before and after the program which was obtained from the office of the Registrar.

RESULTS

All the treated subjects completed the seven sessions of the desensitization group program. Figure 1 presents the mean pre-treatment and post-treatment

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Grade Point Average (G.P.A.) scores for the desensitization group and the non-treated (wait-list) control group. The pre-program G.P.A. scores obtained by the two groups were not significantly different although the average of the control, non-treatment group was higher than that of the treatment group. The post-program G.P.A. scores of the two groups also were not significantly different although now, the treatment group's mean G.P.A. was above that of the control group. The mean G.P.A. improvement was .82 for the treatment group and .18 for the control group. The two sets of GPA scores for the two groups were subjected to an analysis of variance with repeated measures on the same subject (Edwards, 1960). The results of the analysis are presented in Table 1. The

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comparison of the change or improvement between pre and post treatment G.P.A. scores gives evidence of a significant difference ($p < .001$). And this improvement in scores varies by groups. The treatment group demonstrated a

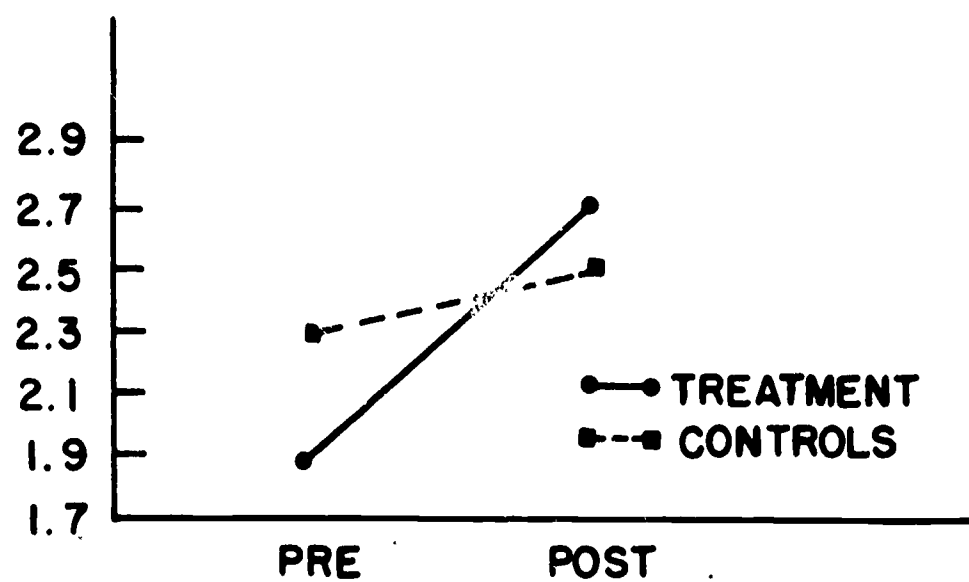


FIG. 1. MEAN PRE-AND POST-TREATMENT GRADE POINT AVERAGE (G.P.A.) FOR THE TREATMENT AND CONTROL GROUPS.

TABLE 1
ANALYSIS OF VARIANCE ON G.P.A. SCORES PRE AND POST TREATMENT PERIOD
FOR Ss IN THE DESENSITIZATION AND CONTROL GROUPS (N=18)

SOURCE OF VARIATION	df	M. S.	F.
BETWEEN GROUPS	1	.1691	.50
Ss/GROUPS (ROWS)	16	.3373	
BETWEEN PRE AND POST GPA OBSERVATIONS	1	2.2902	17.91 ***
INTERACTION (gp x obs)	1	.9015	7.05 *
INTERACTION (POOLED Ss x OBSERVATIONS)	16	.1279	

* $P < .05$

*** $P < .001$

significant improvement in G.P.A. whereas the improvement for the control group was not significant ($p < .05$).

Inspection of the individual G.P.A. score changes showed that all treated subjects improved in G.P.A. However, two of the non-treated control group manifested a drop in G.P.A. between the two observation periods.

DISCUSSION

The data indicated that the desensitization and counseling procedure used in the present study was successful in modifying the academic performance of the test-anxious students. The significantly greater increase in G.P.A. for the treated subjects compared to the non-treated wait-list control group suggested that the treatment model led to a decrease in test-taking anxiety level and hence to higher G.P.A. Students in the treatment group began to give self-reports of change as early as the fourth session. They reported being more relaxed before tests and during study preparation and being better able to handle the crisis of reading a question they did not immediately know how to answer.

Since the control group had received the same instructions about the nature of anxiety and had shown equivalent motivation to commit themselves to the seven desensitization sessions and to practice relaxation exercises at home, the obtained difference in G.P.A. improvement is attributed to the treatment program proper and not merely to a cognitive insight into the nature of anxiety and its inhibition. Students from both groups verbalized their appreciation of the pre-program explanation of anxiety. To view anxiety in a learning framework as a conditioned response gave them hope, they said, that if anxiety could be learned, it could be unlearned or something else could be learned. The program itself seemed to have provided the necessary relearning experiences to make a measurable behavior change possible.

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The seven session length of this treatment program is similar to other studies. The group and individual meetings of Suinn (1968) totaled to a 7-8 week average. Emery and Krumoltz (1967) suggest a maximum of 8 weeks were used in their study. This study was unique in the timing of the seven weeks within the academic quarter. Lang, Lazovik and Reynolds (1965) found that the efficiency of desensitization procedures are primarily dependent on the gradual exposure to the feared objects while in a state of muscle relaxation. Graded visualized hierarchies typically supply this exposure. In addition to graded hierarchies, part of this program was the graded exposure to real life examinations. Students were exposed from the middle of the quarter to the end of the quarter to increasingly more important exams, from weekly quizzes to sectional exams, to the grand final. This allowed them to apply the desensitization and to discuss their success during the treatment discussion periods. This six weeks preceeding finals and session during finals week appeared to achieve an optimal exposure schedule to the stimuli of examinations. Use of therapist time in this group procedure seems efficient for the evidence of effectiveness.

The present study supports the Katahn, Martin, Strenger and Cherry (1966) findings of the benefits of counseling along with the desensitization procedures. It may be that in addition to social reinforcement and support, counseling discussions influenced cognitions that mediated and facilitated the behavior change. In the counseling discussions, the student in addition to seeing increasingly non-fearful models, dealt directly with the study habits and attitudinal and behavioral responses with which to replace his anxiety-associated responses.

Variables not included in this design which require exploration are therapist differences, a different ordering or combination of steps in the program and follow up on the students to ascertain how long the significantly improved G.P.A. level is maintained. The format allows for replication.

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